ABSTRACT

1   A multiprocessor system includes a plurality of data

2   processors. Each data processor includes: a data processing

3   core; a memory forming a local portion of a unified memory;

4   and a global memory arbitration logic. Each local portion of

5   the unified memory is dual ported. The global memory

6   arbitration logic arbitrates access to a first port among the

7   corresponding data processing core and a close data processing

8   core. The global memory arbitration logic arbitrates access

9   to a second port of another data processor among data

10   processing cores having a far connection to that local portion

11   of unified memory. The dual port memory is preferably time

12   multiplexed. The global memory arbitration logic grants a

13   local peripheral bus priority access to both ports of the

14   local portion of unified memory.